

Title: POLYNUCLEOTIDES ENCODING A BRYOPYRAN POLYKETIDE SYNTHASE (as amended)

In the Claims

1-65. (Canceled)

48 66. (Currently amended) A composition, comprising: at least one isolated nucleic acid molecule that encodes at least one polypeptide that catalyzes at least one step in the synthesis of at least one ~~polyketide or bryopyran ring, or the complement thereof~~, wherein the at least one polypeptide comprises at least one activity of a polyketide synthase, and wherein the at least one nucleic acid is derived from at least one marine organism molecule hybridizes under hybridization conditions of 0.015 M NaCl/0.0015 M sodium citrate, 0.1% SDS at 50°C to SEQ ID NO:37 or the complement thereof.

67. (Currently amended) The composition of claim 66, wherein ~~said~~ the at least one bryopyran ring comprises at least one bryostatin.

68-69. (Canceled)

70. (Currently amended) The composition of claim ~~69~~ 66, wherein ~~said~~ the at least one nucleic acid molecule is a nucleic acid of a ~~bacteria~~ comprises at least one Candidatus.

71. (Currently amended) The composition of claim 70, wherein ~~said at least~~ the Candidatus comprises at least one *Endobugula*.

72. (Currently amended) The composition of claim 71, wherein ~~at least one~~ the *Endobugula* ~~is comprises at least one~~ *Endobugula sertula*.

73. (Currently amended) The composition of claim ~~69~~ 66, wherein the nucleic acid molecule is a nucleic acid found in at least one invertebrate comprises at least one *Bugula* or a symbiont thereof.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

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fc 74. (Currently amended) The composition of claim 73, wherein ~~at least one~~ the *Bugula* is *Bugula neritina*, or *Bugula pacifica*.

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75-87. (Canceled)

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40 88. (Currently amended) An isolated nucleic acid molecule comprising ~~any one of~~ SEQ ID NO: NOS. 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 30, 31, 32, 33, 34, 35, 36, 37, or the complement thereof.

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89. (Canceled)